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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,523	09/22/2005	Reddy Vangala	WC0157	4425
7590 Daniel J Deneufbourg Cts Corporation 171 Covington Drive Bloomington, IL 60108			EXAMINER LEE, BENNY T	
			ART UNIT 2817	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			03/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/550,523

Applicant(s)

VANGALA, REDDY

Examiner

Benny Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2; 3; 4; 5, 6, 8-10; 11; 12; 13 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The disclosure is objected to because of the following informalities: Page 2, line 21, note that --of the Invention-- should follow "Summary" for consistency with PTO guidelines. Page 5, lines 10, 12, note that --(FIG. 1)-- should be inserted after "16" (line 10) & "26" (line 12), respectively for consistency with the labeling in the drawing figure; line 11, note that --as shown in FIG. 1-- should be inserted after "21" for consistency with the labeling in the drawing figure; line 14, note that "in the figures" should be rephrased as --in figure 1-- for clarity of description. Page 6, line 6, note that --as shown in FIG. 1-- should be inserted after "18" for consistency with the labeling in the drawing figure; lines 9, 18, note that --(FIG. 1)-- should be inserted after "38" (line 9) & "32" (line 18), respectively for consistency with the labeling in the drawing figure; line 25, note that --as shown in FIG. 2-- should be inserted after "14" for consistency with the labeling in the drawing figure. Page 9, line 19, note that --(FIG. 2)-- should be inserted after "236B" for consistency with the labeling in the drawing figure; line 23, note that --in-- should be inserted after "as" for grammatical correctness; line 24, note that --and are not further described-- should be inserted after "above" for clarity of description. Appropriate correction is required.

The drawings are objected to because in FIG. 2, reference labels (34A, 35A, 36A, 37A) should properly be --(34B, 35B, 36B, 37B)-- such as to be consistent with the labeling in FIG. 1 as well as the specification description.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

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must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claims 2; 8-10; 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, note that it is unclear how "an end portion" relates to the earlier recited "first end portion" & "second end portion" (i.e. one of the two, separate there from, etc). Clarification is needed.

In claims 8, 9, 10, note that it is unclear how "a trap resonator" and "four trap resonators" as respectively recited in these claims relates to "a trap resonator" as recited in claim 5, from which these claims ultimately depend (i.e. same as, different from, etc). Clarification is needed.

In claim 11, note that it is unclear which "two" of the "at least two signal paths" is intended by the recitation of "the two signal paths". Clarification is needed.

The following claims have been found to be objectionable for reasons set forth below:

In claims 4, 5, line 3 of each claim, note that "through-holes each" should be rephrased as --through-holes, each through-hole-- for clarity of description.

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In claim 7, line 2, note that --through-hole-- should be inserted after “one” for clarity of description.

In claims 12, 13, line 2 of each claim, note that “formed” should be rewritten as --provided-- for an appropriate apparatus claim characterization.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1; 3; 4; 5; 11; 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Munn et al.

Munn et al (FIGS. 1-3) discloses a communications filter (i.e. a ceramic duplexer filter 100) comprising: a core block of dielectric material (i.e. a monoblock) having top and bottom surfaces and including first and second end portions/sections (i.e. the transmit filter and the receive filter, respectively) and a central portion there between (i.e. the common antenna); first and second metallized antenna coupling pads/electrodes (i.e. the parallel conductive strips connected to terminal 115); a metallized transmitter coupling pad/electrode (i.e. one of the input/output terminal pads/electrodes {116, 416}); a metallized receiver coupling pad/electrode (i.e. the other of the input/output terminal pads/electrodes {116, 416}); a plurality of coupled resonators (i.e. 114) extending through the dielectric ceramic block, between the top and bottom surfaces, in each of the transmit/receive filter sections; a trap resonator extending through the dielectric block and located at the central portion (i.e. single through hole resonator 119 which is located in an area between the antenna coupling pads). Note that the majority of the ceramic

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dielectric block is metallized by a conductive material to provide a ground reference, as would have been conventional for this type of communications filter. Note that as evident from the comparative frequency response curves in FIG. 9, the trap filter provides attenuation of the frequency response in regions outside of the desired passband.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2; 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munn et al in view of Kitajima et al.

Munn et al discloses the claimed invention except for the presence of trap resonators located between the end of a respective of the dielectric block and the corresponding transmit/receive input/output coupling pad/electrode.

As evident from Kitajima et al, the use of trap resonators (i.e. 53) located between a respect end of the dielectric block and a corresponding input/output pad/electrode would have been conventional in the art.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have modified the dielectric block filter of Munn et al to have included additional trap filters at the locations taught by Kitajima et al. Such a modification would have been considered obvious since it would have imparted to the Munn et al dielectric block filter the benefits of removing undesirable frequencies (e.g. at the high frequency end) to thereby improve out of band

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attenuation by providing to the filter in Munn et al additional trap resonators in accordance with the teaching in Kitajima et al (e.g. see column 1, lines 58-61).

Claims 6; 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munn et al in view of the published US patent application to Bloom et al.

Munn et al discloses the claimed invention except for the presence of a decoupler in the antenna coupling region.

Bloom et al (Fig. 2) discloses the presence of conductive metallization strips, which span the top face of the dielectric block and are electrically connected to the ground metallization associated with the dielectric block. Note that the presence of these grounded metallization strips is to isolate and segregate the transmit portion, the antenna portion and the receive portion of the dielectric block filter, as is evident from FIG. 2.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have modified the Munn et al dielectric block filter to have included such isolation metallizations adjacent the antenna coupling section, such as taught by Bloom et al. Note that such a modification obviously results in such isolating metallizations functioning as a “decoupler”, as would have been recognized by one of ordinary skill in the art. Such a modification would have been considered obvious since it would have imparted to Munn et al the advantageous benefit of additional isolation between the transmit and receive sections as to have prevented undesirable transmit/receive interaction, thereby suggesting the obviousness of such a modification.

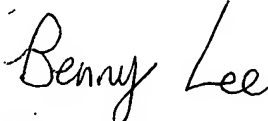
Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim.

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Regarding the Information Disclosure Statement (IDS) filed 22 September 2005, a consideration of the IDS has been deferred by the examiner since the foreign patent documents cited in the IDS do not appear to be in the file record. Since the contents of the IDS were a part of an International Search Report, and this application is a National Stage filing and the references cited in the IDS would normally have been transmitted to the National Stage Office by the International Bureau, applicant is not under any obligation to provide the purportedly missing foreign patent documents to comply with the IDS filing requirements. However, as a courtesy to the examiner, it is requested that applicant voluntarily submit copies of the foreign patent documents in applicant's response to this Office action. This would greatly expedite consideration of applicant's IDS.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

B. Lee


BENNY T. LEE
PRIMARY EXAMINER
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